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EXAMINER

MIGGINS, MICHAEL C

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 02/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/090,471

Applicant(s)

HUTCHINSON ET AL.

Examiner

Michael C. Miggins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 24-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 24-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

WITHDRAWN REJECTIONS

1. The rejection under 35 U.S.C. 102(e) of claims 1-5, 7, 9-14, 16, 18-20 and 22 rejected as being anticipated by Collete et al. (U.S. Patent No. 5,628,957) set forth in paper #5, pages 2-4, paragraphs 1-2 has been withdrawn since applicant has amended independent claims 1 and 10 to read that the laminate consists of two layers while Collete et al. teach three layers. Moreover, the 35 USC 103(a) rejection of claims 8, 17 and 23 as being unpatentable over Collete et al. (U.S. Patent No. 5,628,957) in view of Hiraoka et al. (WO 97/31050) set forth in paper #5, page 5, paragraphs 4-5 has been withdrawn since applicant has amended independent claims 1 and 10 to read that the laminate consists of two layers while Collete et al. (column 5, lines 31-44) teach three layers.

The 35 USC 102 (a) of claims 1-5 as being anticipated by Hiraoka et al. (WO 97/31050) set forth in paper #5, page 4, paragraph 3 has been withdrawn since Hiraoka et al. do not teach the limitation "wherein the first layer is directly adhered to the second layer" (see English translation of the abstract provided by the examiner in paper #5. Although Hiraoka et al. do teach a laminate of two layers it is never specifically taught that the first and second layer are directly adhered to each other.

The 35 USC 103(a) rejection of claims 7-9, 10-14, 16-17 as being unpatentable over Hiraoka et al. (WO 97/31050) in view of Collete et al. (U.S. Patent No. 5,628,957) set forth in paper #5, pages 6-8, paragraph 6 has been withdrawn for the same reasons as the 35 USC 102 (a) of claims 1-5 as being anticipated by Hiraoka et al. (WO

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97/31050) as just discussed above. It is to be pointed out that the original rejection set forth in paper #5, pages 6-8, paragraph 6 of Hiraoka et al. (WO 97/31050) in view of Collete et al. (U.S. Patent No. 5,628,957) was written as Collete et al. (U.S. Patent No. 5,628,957) in view of Hiraoka et al. (WO 97/31050) which was a type-o as the rejection was clearly meant to read Hiraoka et al. (WO 97/31050) in view of Collete et al. (U.S. Patent No. 5,628,957).

In short, all of the prior art rejections set forth in paper #5 have been withdrawn.

REJECTIONS REPEATED

2. There are no rejections repeated.

Examiner's Comments

3. The Hiraoka et al. (WO 97/310050) is a foreign reference which contains an English translation of the abstract (provided by examiner in paper #5), the rest of the document being in Japanese. It is recognized that an English translation of the reference may clarify the record and since the examiner first applied the reference in paper #5 (note: applicant has since cited the Hiraoka et al. reference in the IDS, paper #6 of 11/6/03), the examiner will try to obtain an English translation before the next office action. In the meantime, if applicant wishes to provide an English translation, applicant is invited to do so.

RESPONSE TO APPLICANT'S ARGUMENTS

4. Although all of the prior art rejections from paper #5 have been withdrawn, the examiner would like to address at least some of the arguments presented in the amendment of 11/12/03, paper #7, especially with regards to the Hiraoka et al. reference since this reference has been applied as a primary reference in some of the 35 USC 103(a) rejections set forth below.

Applicant's arguments with regard to the Collette (U.S. Patent No. 5,628,957) reference have been considered but are moot since the Collette reference has been removed as a primary reference against the instant claims. Collette has been removed as a primary reference against claims 1 and 10 because applicant now requires that the laminate consist of only two layers (claims 1 and 10). Collette teaches a three layer laminate (Fig. 2 and column 5, lines 31-44).

With regard to the Hiraoka et al. (English translation of abstract from WO 97/31050) reference, applicant has argued that Hiraoka does not teach a layer of PET directly adhered to a layer of polyamide but rather teaches a new type of polyester directly adhered to a layer of polyamide. However, Hiraoka clearly describes that one of the diol units used to make the polyester can be ethylene glycol and the dicarboxylic acid unit can be terephthalic acid (see English translation of abstract provided in paper #5). Therefore, Hiraoka describes PET as one of the materials that is used in the layer which is directly adhered to the polyamide layer. Furthermore, applicant uses the terms "comprising" or "comprises" with regards to the first layer in claims 1, 10 and 24 which does not exclude the inclusion of further elements in the first layer.

New grounds for rejection are set forth below.

NEW REJECTIONS

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 15 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 and 17 recite the limitation "the barrier material" in line 1 and lines 1-2, respectively. There is insufficient antecedent basis for this limitation in the claim. It is suggested that applicant insert the word - - barrier - - after "thermoplastic" and before "material" in line 5 of claim 10 to correct the antecedent basis problem.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirose et al. (U.S. Patent No. 4,844,987).

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With regards to instant claim 1, Hirose et al. teach a laminate consisting of a first layer and a second layer (column 4, lines 22-40), the first layer comprising polyethylene terephthalate (column 4, lines 22-40), and the second second layer comprising a thermoplastic material selected from the group consisting of copolyester barrier materials, phenoxy-type thermoplastics, polyamides, polyethylene naphthalate, polyethylene naphthalate copolymers, polyethylene naphthalate/polyethylene terephthalate blends, polyethylene terephthalate and combinations thereof (since polyamide is taught as the outer layer, see column 4, lines 22-40), and said polyethylene terephthalate in the first layer has an isophthalic acid content of at least about 2% by weight (since it is taught that the polyethylene terephthalate comprises at least 80 mole % based on total recurring units and part of the terephthalic acid component may be replaced by at least one member selected from bifunctional carboxylic acids such as isophthalic acid, meaning that the isophthalic acid is present anywhere from 0-20 mole% since terephthalic and isophthalic acid have the same molecular weight which means mole% is approximately equal to weight%, see column 3, lines 44-68), wherein the first layer is directly adhered to the second layer (column 4, lines 22-40) (applies to instant claim 1).

With regard to instant claims 2-5, Hirose et al. teach the isophthalic acid content of the polyethylene terephthalate in the first layer is about 2-10, 4-5, 3-8, or 5-10% by weight, since it is taught that the polyethylene terephthalate comprises at least 80 mole % based on total recurring units and part of the terephthalic acid component may be replaced by at least one member selected from bifunctional carboxylic acids such as

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isophthalic acid, meaning that the isophthalic acid is present anywhere from 0-20 mole% since terephthalic and isophthalic acid have the same molecular weight (column 3, lines 44-68) (applies to instant claims 2-5).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose et al. (U.S. Patent No. 4,844,987) in view of Hiraoka et al. (English translation of abstract from WO 97/31050 only, provided by examiner in paper #5).

Hirose et al. teach an isophthalic acid content of at least about 2% by weight (since it is taught that the polyethylene terephthalate comprises at least 80 mole % based on total recurring units and part of the terephthalic acid component may be replaced by at least one member selected from bifunctional carboxylic acids such as isophthalic acid, meaning that the isophthalic acid is present anywhere from 0-20 mole% since terephthalic and isophthalic acid have the same molecular weight, see column 3, lines 44-68) as described above.

However, Hirose et al. do not precisely teach an isophthalic acid content of the polyethylene terephthalate in the first layer which is about 2-10, 4-5, 3-8, or 5-10% as recited in instant claims 2-5.

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Hiraoka et al. teach a more precise range of an isophthalic acid content of from 1-15% in a polyester (PET layer) in a multi-layer laminate for the purpose of providing good gas barrier properties, transparency and heat resistance (see English abstract provided by examiner in paper #5) (applies to instant claims 2-5).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided an isophthalic acid content in the first PET layer which is about 2-10, 4-5, 3-8, or 5-10% in the laminate of Hirose et al. in order to provide good gas barrier properties, transparency and heat resistance as taught or suggested by Hiraoka et al..

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose et al. (U.S. Patent No. 4,844,987) in view of Farha (U.S. Patent No. 5,472,753).

Hirose et al. disclose applicant's invention substantially as claimed. However, Hirose et al. fail to disclose wherein the second layer of thermoplastic material is a poly(hydroxyamino ether).

Farha teaches a second layer of thermoplastic material which is a poly(hydroxyamino ether) (albeit with a certain amount of copolyester in the poly(hydroxyamino ether layer column 35-50 and column 10, lines 15-21) bonded to a PET layer in a two layer laminate (see column 3, lines 35-50) (applies to instant claim 6) for the purpose of providing good oxygen barrier properties combined with excellent mechanical properties (column 2, lines 40-55).

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Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a second layer of thermoplastic material which is a poly(hydroxyamino ether) in the multi-layer laminate of Hirose et al. in order to provide good oxygen barrier properties combined with excellent mechanical properties as taught or suggested by Farha.

12. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose et al. (U.S. Patent No. 4,844,987) in view of Collette et al. (U.S. Patent No. 5,628,957)

Hirose et al. disclose applicant's invention substantially as claimed. However, Hirose et al. fail to teach wherein the second layer of thermoplastic material is a copolyester barrier material and wherein the second layer of thermoplastic material is polyethylene terephthalate comprising recycled or post-consumer polyethylene terephthalate.

Collette et al. teach a second layer of thermoplastic material is a copolyester barrier material (column 6, line 51 through column 7, line 2) and wherein the second layer of thermoplastic material is polyethylene terephthalate comprising recycled or post-consumer polyethylene terephthalate (column 10, lines 49-67 and column 5, lines 31-44) (applies to instant claims 7 and 9) in a multi-layer laminate for the purpose of providing enhanced thermal and barrier properties (column 1, lines 23-33).

Therefore it would have been obvious at the time applicant's invention was made to have provided a second layer of thermoplastic material which is a copolyester barrier

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material and wherein the second layer of thermoplastic material is polyethylene terephthalate comprising recycled or post-consumer polyethylene terephthalate in the multi-layer laminate of Hirose et al. in order to provide enhanced thermal and barrier properties as taught or suggested by Collette et al..

13. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose et al. (U.S. Patent No. 4,844,987) in view of Yamada et al. (U.S. Patent No. 4,528,219).

Hirose et al. disclose applicant's invention substantially as claimed. However, Hirose et al. fail to disclose a second layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate.

Yamada et al. teach a layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate bonded to a PET layer (column 2, lines 46-58 and column 5, lines 23-37) (applies to instant claim 8) in a multi-layer laminate (column 2, lines 46-58) for the purpose of providing improved adhesion (column 2, lines 46-58 and column 5, lines 23-60).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a second layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate in the multi-layer laminate of Hirose et al. in order to provide improved adhesion as taught or suggested by Yamada et al..

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14. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Hiraoka et al. (English translation of abstract from WO 97/31050, provided by examiner in paper #5) in view of Hirose et al. (U.S. Patent No. 4,844,987).

With regards to instant claim 1, Hiraoka et al. teach a laminate consisting of a first layer and a second layer, the first layer comprising polyethylene terephthalate, and the second second layer comprising a thermoplastic material selected from the group consisting of copolyester barrier materials, phenoxy-type thermoplastics, polyamides, polyethylene naphthalate, polyethylene naphthalate copolymers, polyethylene naphthalate/polyethylene terephthalate blends, polyethylene terephthalate and combinations thereof (since polyamide is taught as the second layer, see English abstract provided in paper #5), and said polyethylene terephthalate in the first layer has an isophthalic acid content of at least about 2% by weight (since a specific range of 1-15% is taught, see English abstract provided in paper #5).

With regard to instant claims 2-5, Hiraoka et al. teach a specific range of an isophthalic acid content of from 1-15% in a polyester (PET) layer, which reads on applicant's recited ranges of about 2-10, 4-5, 3-8, or 5-10% as recited in instant claims 2-5 (see English translation of abstract provided in paper #5).

Hiraoka et al. disclose applicant's invention substantially as claimed. However, Hiraoka et al. fail to teach wherein the first layer is directly adhered to the second layer.

Hirose et al. teach a PET layer which is directly adhered to a polyamide layer (column 4, lines 22-40) (applies to instant claim 1) for the purpose of disposing with the costly and timely adhesive layer.

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Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a multi-layer laminate wherein the first layer is directly adhered to the second layer in the multi-layer laminate of Hiraoka et al. in order to dispose of the costly and timely adhesive layer as taught or suggested by Hirose et al..

15. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Hiraoka et al. (English translation of abstract from WO 97/31050, provided by examiner in paper #5) in view of Hirose et al. (U.S. Patent No. 4,844,987), as applied to claims 1-5 above and further in view of Farha (U.S. Patent No. 5,472,753).

Hiraoka et al. disclose applicant's invention substantially as claimed. However, Hiraoka et al. fail to disclose wherein the second layer of thermoplastic material which is a poly(hydroxyamino ether).

Farha teaches a second layer of thermoplastic material which is a poly(hydroxyamino ether) (albeit with a certain amount of copolyester in the poly(hydroxyamino ether layer column 35-50 and column 10, lines 15-21) bonded to PET layer in a two layer laminate (see column 3, lines 35-50) (applies to instant claim 6) for the purpose of providing good oxygen barrier properties combined with excellent mechanical properties (column 2, lines 40-55).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a second layer of thermoplastic material is a poly(hydroxyamino ether) in the multi-layer laminate of Hiraoka et al. in

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order to provide good oxygen barrier properties combined with excellent mechanical properties as taught or suggested by Farha.

16. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Hiraoka et al. (English translation of abstract from WO 97/31050, provided by examiner in paper #5) in view of Hirose et al. (U.S. Patent No. 4,844,987), as applied to claims 1-5 above and further in view of Collette et al. (U.S. Patent No. 5,628,957)

Hiraoka et al. disclose applicant's invention substantially as claimed. However, Hiraoka et al. fail to teach wherein the second layer of thermoplastic material is a copolyester barrier material and wherein the second layer of thermoplastic material is polyethylene terephthalate comprising recycled or post-consumer polyethylene terephthalate.

Collette et al. teach a second layer of thermoplastic material which is a copolyester barrier material (column 6, line 51 through column 7, line 2) and wherein the second layer of thermoplastic material is polyethylene terephthalate comprising recycled or post-consumer polyethylene terephthalate (column 10, lines 49-67 and column 5, lines 31-44) (applies to instant claims 7 and 9) in a multi-layer laminate for the purpose of providing enhanced thermal and barrier properties (column 1, lines 23-33).

Therefore it would have been obvious at the time applicant's invention was made to have provided a second layer of thermoplastic material is a copolyester barrier material and wherein the second layer of thermoplastic material is polyethylene terephthalate comprising recycled or post-consumer polyethylene terephthalate in the

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multi-layer laminate of Hiraoka et al. in order to provide enhanced thermal and barrier properties as taught or suggested by Collette et al..

17. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Hiraoka et al. (English translation of abstract from WO 97/31050, provided by examiner in paper #5) in view of Hirose et al. (U.S. Patent No. 4,844,987), as applied to claims 1-5 above and further in view of Yamada et al. (U.S. Patent No. 4,528,219).

Hiraoka et al. disclose applicant's invention substantially as claimed. However, Hiraoka et al. fail to disclose a second layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate.

Yamada et al. teach a layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate bonded to PET (column 2, lines 46-58 and column 5, lines 23-37) (applies to instant claim 8) in a multi-layer laminate (column 2, lines 46-58) for the purpose of providing improved adhesion (column 2, lines 46-58 and column 5, lines 23-60).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a second layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate in the multi-layer laminate of Hiraoka et al. in order to provide improved adhesion as taught or suggested by Yamada et al..

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18. Claims 10, 12-15 and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose et al. (U.S. Patent No. 4,844,987) in view of Farha (U.S. Patent No. 5,472,753).

With regard to instant claims 10, 12 and 24, Hirose et al. teach a laminate in the form of a preform or container (column 3, lines 6-43) wherein the laminate consists of first and second layers (column 4, lines 22-40) and wherein the first layer comprising polyethylene terephthalate (column 4, lines 22-40) and said polyethylene terephthalate in the first layer has an isophthalic acid content of at least about 2% by weight (since it is taught that the polyethylene terephthalate comprises at least 80 mole % based on total recurring units and part of the terephthalic acid component may be replaced by at least one member selected from bifunctional carboxylic acids such as isophthalic acid, meaning that the isophthalic acid is present anywhere from 0-20 mole % since terephthalic and isophthalic acid have the same molecular weight, see column 3, lines 44-68), and wherein the second layer comprising a thermoplastic material selected from the group consisting of copolyester barrier materials, phenoxy-type thermoplastics, polyamides, polyethylene naphthalate, polyethylene naphthalate copolymers, polyethylene naphthalate/polyethylene terephthalate blends, polyethylene terephthalate and combinations thereof (since polyamide is taught as the outer layer, see column 4, lines 22-40), wherein the PET layer (the first layer) forms an interior surface of the pre-form or container (since the PET layer is the inner layer, see column 4, lines 22-40) (applies to instant claims 10, 12 and 24).

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With regard to instant claims 13-14 and 25-26, Hirose et al. teach an isophthalic acid content of about 2-10 and 4-5% by weight in the PET layer (since it is taught that the polyethylene terephthalate comprises at least 80 mole % based on total recurring units and part of the terephthalic acid component may be replaced by at least one member selected from bifunctional carboxylic acids such as isophthalic acid, meaning that the isophthalic acid is present anywhere from 0-20 mole % since terephthalic and isophthalic acid have the same molecular weight, see column 3, lines 44-68) (applies to instant claims 13-14 and 25-26).

Hirose et al. disclose applicant's invention substantially as claimed. However, Hirose et al. fail to disclose that the pre-form or container comprises a neck portion and a body portion, and wherein the barrier material is a poly (hydroxyamino ether).

Farha teaches a pre-form or container comprising a neck portion and a body portion (column 11, lines 12-28), and a barrier material which is a poly (hydroxyamino ether) bonded to a PET layer (albeit with a certain amount of copolyester in the poly(hydroxyamino ether) layer column 35-50 and column 10, lines 15-21) (applies to instant claims 10, 15, 24 and 27) for the purpose of providing good oxygen barrier properties combined with excellent mechanical properties (column 2, lines 40-55) and a container which is well suited for holding carbonated beverages (column 1, lines 8-15).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a pre-form or container comprising a neck portion and a body portion, and wherein the barrier material is a poly (hydroxyamino ether) in the container of Hirose et al. in order to provide good oxygen

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barrier properties combined with excellent mechanical properties and a container which is well suited for holding carbonated beverages as taught or suggested by Farha.

19. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose et al. (U.S. Patent No. 4,844,987) and Farha (U.S. Patent No. 5,472,753), as applied to claims 10, 12-15 and 24-27 above, and further in view of Schloss et al. (U.S. Patent No. 5,851,471).

Hirose et al. disclose applicant's invention substantially as claimed. However, Hirose et al. fail to disclose a pre-form or container wherein the body portion of the pre-form or container comprises a wall portion and an end cap and the first layer is thinner in the end cap than in the wall portion and the second layer is thicker in the end cap than in the wall portion.

Schloss et al. teach a pre-form or container wherein the body portion of the pre-form or container comprises a wall portion and an end cap and the first layer is thinner in the end cap than in the wall portion (30 from Fig. 4 and column 4, lines 25-65) and the second layer is thicker in the end cap than in the wall portion (20 from Fig. 4 and column 4, lines 25-65) (applies to instant claim 11) for the purpose of providing improved structural strength and durability (column 4, lines 41-52).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a body portion of the pre-form or container comprising a wall portion and an end cap wherein a first layer is thinner in the end cap than in the wall portion and wherein a second layer is thicker in the end cap

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than in the wall portion in the container of Hirose et al. in order to provide improved structural strength and durability as taught or suggested by Schloss et al..

20. Claims 16 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose et al. (U.S. Patent No. 4,844,987) and Farha (U.S. Patent No. 5,472,753), as applied to claims 10, 12-15 and 24-27 above, and further in view of Collette et al. (U.S. Patent No. 5,628,957)

Hirose et al. disclose applicant's invention substantially as claimed. However, Hirose et al. fail to teach wherein the second layer of thermoplastic material is a copolyester barrier material and wherein the second layer of thermoplastic material is polyethylene terephthalate comprising recycled or post-consumer polyethylene terephthalate.

Collette et al. teach a second layer of thermoplastic material is a copolyester barrier material (column 6, line 51 through column 7, line 2) and wherein the second layer of thermoplastic material is polyethylene terephthalate comprising recycled or post-consumer polyethylene terephthalate (column 10, lines 49-67 and column 5, lines 31-44) (applies to instant claims 7 and 9) in a multi-layer laminate container or pre-form (column 9, lines 13-33) for the purpose of providing enhanced thermal and barrier properties (column 1, lines 23-33).

Therefore it would have been obvious at the time applicant's invention was made to have provided a second layer of thermoplastic material is a copolyester barrier material and wherein the second layer of thermoplastic material is polyethylene

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terephthalate comprising recycled or post-consumer polyethylene terephthalate in the multi-layer laminate of Hirose et al. in order to provide enhanced thermal and barrier properties as taught or suggested by Collette et al..

21. Claims 17 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose et al. (U.S. Patent No. 4,844,987) and Farha (U.S. Patent No. 5,472,753), as applied to claims 10, 12-15 and 24-27 above, and further in view of Yamada et al. (U.S. Patent No. 4,528,219).

Hirose et al. disclose applicant's invention substantially as claimed. However, Hirose et al. fail to disclose a second layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate.

Yamada et al. teach a layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate bonded to PET (column 2, lines 46-58 and column 5, lines 23-37) (applies to instant claim 8) in a multi-layer laminate container (column 2, lines 46-58) for the purpose of providing improved adhesion (column 2, lines 46-58 and column 5, lines 23-60).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a second layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate in the multi-layer laminate container of Hirose et al. in order to provide improved adhesion as taught or suggested by Yamada et al..

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22. Claims 10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Hiraoka et al. (English translation of abstract from WO 97/31050, provided by examiner in paper #5) in view of Farha (U.S. patent No. 5,472,753).

With regards to instant claim 10, Hiraoka et al. teach a laminate for a bottle consisting of a first layer and a second layer, the first layer comprising polyethylene terephthalate, and the second second layer comprising a thermoplastic material selected from the group consisting of copolyester barrier materials, phenoxy-type thermoplastics, polyamides, polyethylene naphthalate, polyethylene naphthalate copolymers, polyethylene naphthalate/polyethylene terephthalate blends, polyethylene terephthalate and combinations thereof (since polyamide is taught as the second layer, see English abstract provided in paper #5), and said polyethylene terephthalate in the first layer has an isophthalic acid content of at least about 2% by weight (since a specific range of 1-15% for isophthalic acid is taught) (see English abstract provided in paper #5).

With regard to instant claims 13-14, Hiraoka et al. teach a specific range of an isophthalic acid content of from 1-15% in a polyester (PET type layer), which reads on applicant's recited ranges of about 2-10, 4-5% as recited in instant claims 13-14 (see English translation of abstract provided in paper #5).

Hiraoka et al. disclose applicant's invention substantially as claimed. However, Hiraoka et al. fail to disclose that the pre-form or container comprises a neck portion and a body portion, and wherein the barrier material is a poly (hydroxyamino ether).

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Farha teaches a pre-form or container comprising a neck portion and a body portion (column 11, lines 12-28), and a barrier material which is a poly (hydroxyamino ether) bonded to a PET layer (albeit with a certain amount of copolyester in the poly(hydroxyamino ether layer column 35-50 and column 10, lines 15-21) (applies to instant claims 10 and 15) for the purpose of providing good oxygen barrier properties combined with excellent mechanical properties (column 2, lines 40-55) and a container which is well suited for holding carbonated beverages (column 1, lines 8-15).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a pre-form or container comprising a neck portion and a body portion, and wherein the barrier material is a poly (hydroxyamino ether) in the container of Hiraoka et al. in order to provide good oxygen barrier properties combined with excellent mechanical properties and a container which is well suited for holding carbonated beverages as taught or suggested by Farha.

23. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Hiraoka et al. (English translation of abstract from WO 97/31050, provided by examiner in paper #5) and Farha (U.S. patent No. 5,472,753), as applied to claims 10 and 13-15 above, and further in view of Schloss et al. (U.S. Patent No. 5,851,471).

Hiraoka et al. disclose applicant's invention substantially as claimed. However, Hiraoka et al. fail to disclose a pre-form or container wherein the body portion of the pre-form or container comprises a wall portion and an end cap and the first layer is thinner

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in the end cap than in the wall portion and the second layer is thicker in the end cap than in the wall portion.

Schloss et al. teach a pre-form or container wherein the body portion of the pre-form or container comprises a wall portion and an end cap and the first layer is thinner in the end cap than in the wall portion (30 from Fig. 4 and column 4, lines 25-65) and the second layer is thicker in the end cap than in the wall portion (20 from Fig. 4 and column 4, lines 25-65) (applies to instant claim 11) for the purpose of providing improved structural strength and durability (column 4, lines 41-52).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a body portion of the pre-form or container comprising a wall portion and an end cap wherein a first layer is thinner in the end cap than in the wall portion and wherein a second layer is thicker in the end cap than in the wall portion in the container of Hiraoka et al. in order to provide improved structural strength and durability as taught or suggested by Schloss et al..

24. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Hiraoka et al. (English translation of abstract from WO 97/31050, provided by examiner in paper #5) and Farha (U.S. patent No. 5,472,753), as applied to claims 10 and 13-15 above, and further in view of Hirose et al. (U.S. Patent No. 4,844,987).

Hiraoka et al. disclose applicant's invention substantially as claimed. However, Hiraoka et al. fail to disclose wherein the laminate has an inner layer, and the first layer (PET layer) is the inner layer of the pre-form or container.

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Hirose et al. teach a pre-form or container (column 3, lines 6-43) wherein the laminate has an inner layer, and the first layer (PET layer) is the inner layer of the pre-form or container (column 4, lines 22-40) (applies to instant claim 12) for the purpose of providing excellent gas barrier property, mechanical characteristics and heat resistance (column 1, lines 55-60).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a laminate having an inner layer, and the first layer (PET layer) is the inner layer of the pre-form or container in the container of Hiraoka et al. in order to provide excellent gas barrier property, mechanical characteristics and heat resistance as taught or suggested by Hirose et al..

25. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Hiraoka et al. (English translation of abstract from WO 97/31050, provided by examiner in paper #5) and Farha (U.S. patent No. 5,472,753), as applied to claims 10 and 13-15 above, and further in view of Collette et al. (U.S. Patent No. 5,628,957).

Hiraoka et al. disclose applicant's invention substantially as claimed. However, Hiraoka et al. fail to disclose wherein the barrier material is a copolyester barrier material.

Collette et al. teach wherein the barrier material which is a copolyester barrier material (column 6, line 51 through column 7, line 2) in a multi-layer laminate container or pre-form (column 5, lines 31-44) (applies to instant claim 16) for the purpose of providing enhanced thermal and barrier properties (column 1, lines 23-33).

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Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a barrier material which is a copolyester barrier material in the container of Hiraoka et al. in order to provide enhanced thermal and barrier properties.

26. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Hiraoka et al. (English translation of abstract from WO 97/31050, provided by examiner in paper #5) and Farha (U.S. patent No. 5,472,753), as applied to claims 10 and 13-15 above, and further in view of Yamada et al. (U.S. Patent No. 4,528,219).

Hiraoka et al. disclose applicant's invention substantially as claimed. However, Hiraoka et al. fail to disclose a second layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate.

Yamada et al. teach a layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate bonded to PET (column 2, lines 46-58 and column 5, lines 23-37) (applies to instant claim 17) in a multi-layer laminate container (column 2, lines 46-58) for the purpose of providing improved adhesion (column 2, lines 46-58 and column 5, lines 23-60).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a second layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate in the multi-layer laminate container of Hiraoka et al. in order to provide improved adhesion as taught or suggested by Yamada et al..

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27. Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiraoka et al. (English translation of abstract from WO 97/31050, provided by examiner in paper #5) in view of Farha (U.S. patent No. 5,472,753) and Hirose et al. (U.S. Patent No. 4,844,987).

With regards to instant claim 24, Hiraoka et al. teach a laminate for a bottle consisting of a first layer and a second layer, the first layer comprising polyethylene terephthalate, and the second second layer comprising a thermoplastic material selected from the group consisting of copolyester barrier materials, phenoxy-type thermoplastics, polyamides, polyethylene naphthalate, polyethylene naphthalate copolymers, polyethylene naphthalate/polyethylene terephthalate blends, polyethylene terephthalate and combinations thereof (since polyamide is taught as the second layer, see English abstract provided in paper #5), and said polyethylene terephthalate in the first layer has an isophthalic acid content of at least about 2% by weight (since a specific range of 1-15% of isophthalic acid is taught) (see English abstract provided in paper #5).

With regard to instant claims 25-26, Hiraoka et al. teach a specific range of an isophthalic acid content of from 1-15% in a polyester (PET) layer, which reads on applicant's recited ranges of about 2-10, 4-5% as recited in instant claims 25-26 (see English translation of abstract provided in paper #5).

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Hiraoka et al. disclose applicant's invention substantially as claimed. However, Hiraoka et al. fail to disclose that the pre-form or container comprises a neck portion and a body portion, and wherein the barrier material is a poly (hydroxyamino ether).

Farha teaches a pre-form or container comprising a neck portion and a body portion (column 11, lines 12-28), and a barrier material which is a poly (hydroxyamino ether) bonded to a PET layer (albeit with a certain amount of copolyester in the poly(hydroxyamino ether) layer column 35-50 and column 10, lines 15-21) (applies to instant claims 24 and 27) for the purpose of providing good oxygen barrier properties combined with excellent mechanical properties (column 2, lines 40-55) and a container which is well suited for holding carbonated beverages (column 1, lines 8-15).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a pre-form or container comprising a neck portion and a body portion, and wherein the barrier material is a poly (hydroxyamino ether) in the container of Hiraoka et al. in order to provide good oxygen barrier properties combined with excellent mechanical properties and a container which is well suited for holding carbonated beverages as taught or suggested by Farha.

Hiraoka et al. disclose applicant's invention substantially as claimed. However, Hiraoka et al. fail to disclose wherein the laminate has an inner layer, and the first layer (PET layer) is the inner layer of the pre-form or container.

Hirose et al. teach a pre-form or container (column 3, lines 6-43) wherein the laminate has an inner layer, and the first layer (PET layer) is the inner layer of the pre-form or container (column 4, lines 22-40) (applies to instant claim 24) for the purpose of

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providing excellent gas barrier property, mechanical characteristics and heat resistance (column 1, lines 55-60).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a laminate having an inner layer, and the first layer (PET layer) is the inner layer of the pre-form or container in the container of Hiraoka et al. in order to provide excellent gas barrier property, mechanical characteristics and heat resistance as taught or suggested by Hirose et al..

28. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hiraoka et al. (English translation of abstract from WO 97/31050, provided by examiner in paper #5) and Farha (U.S. patent No. 5,472,753) and Hirose et al. (U.S. Patent No. 4,844,987), as applied to claims 24-27 above, and further in view of Collette et al. (U.S. Patent No. 5,628,957).

Hiraoka et al. disclose applicant's invention substantially as claimed. However, Hiraoka et al. fail to disclose wherein the barrier material is a copolyester barrier material.

Collette et al. teach wherein the barrier material is a copolyester barrier material (column 6, line 51 through column 7, line 2) in a multi-layer laminate container or pre-form (column 5, lines 31-44) (applies to instant claim 28) for the purpose of providing enhanced thermal and barrier properties (column 1, lines 23-33).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a barrier material which is a

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copolyester barrier material in the container of Hiraoka et al. in order to provide enhanced thermal and barrier properties.

29. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hiraoka et al. (English translation of abstract from WO 97/31050, provided by examiner in paper #5) and Farha (U.S. patent No. 5,472,753) and Hirose et al. (U.S. Patent No. 4,844,987), as applied to claims 24-27 above, and further in view of Yamada et al. (U.S. Patent No. 4,528,219).

Hiraoka et al. disclose applicant's invention substantially as claimed. However, Hiraoka et al. fail to disclose a second layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate.

Yamada et al. teach a layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate bonded to PET (column 2, lines 46-58 and column 5, lines 23-37) (applies to instant claim 29) in a multi-layer laminate container (column 2, lines 46-58) for the purpose of providing improved adhesion (column 2, lines 46-58 and column 5, lines 23-60).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a second layer of thermoplastic material which is a polyamide comprising a polyamide and 1-10% by weight polyethylene terephthalate in the multi-layer laminate container of Hiraoka et al. in order to provide improved adhesion as taught or suggested by Yamada et al..

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Miggins whose telephone number is (571) 272-1494. The examiner can normally be reached on Monday-Friday; 1:30-10:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pyon Harold can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael C. Miggins
Examiner
Art Unit 1772



MCM
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